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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,092	05/03/2006	Tetsuo Nishida	TAM-062	4737
20374 7590 01/22/2009 KUBOVCIK & KUBOVCIK SUITE 1105 1215 SOUTH CLARK STREET ARLINGTON, VA 22202				
EXAMINER				
WILLS, MONIQUE M				
ART UNIT		PAPER NUMBER		
1795				
MAIL DATE		DELIVERY MODE		
01/22/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/578,092

**Applicant(s)**

NISHIDA ET AL.

**Examiner**

Monique M. Wills

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 October 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 03 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/CIS)  
4) ☐ Interview Summary (PTO-413)  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_  
Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

This Office Action is responsive to the Amendment filed October 27, 2008. The rejection of claims 1-9 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is overcome. The rejection of claims 1-9 under 35 U.S.C. 103(a) as being unpatentable over Sato U.S. Pub. 2007/0031729 is overcome. The rejection of claims 1-9 under 35 U.S.C. 103(a) as being unpatentable over Kikuyama et al. JP 2004-247176 in view of Nakagawa et al. U.S. Pub. 2006/0068296 is overcome. However, claims 1-9 are rejected as follows:

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato U.S. Pub. 2007/0031729 (as WO 02/076924) in view of Murai et al. U.S. Pat. 7,097,944.

With respect to **claim 1**, Sato teaches an electrolytic solution for use in nonaqueous electrolytic cells which contains a room temperature molten salt comprising an aliphatic quaternary ammonium salt of the  $\text{NR}^1\text{R}^2\text{R}^3\text{R}^4\text{X}^1$ , an organic solvent and a lithium salt of  $\text{LiX}^2$  (par. 18) wherein  $\text{R}^1$  to  $\text{R}^3$  are each a chain hydrocarbon having 1 to 4 carbon atoms (par.18),  $\text{R}^4$  is methoxymethyl, (par. 34), and  $\text{X}^1$  and  $\text{X}^2$  are each a fluorine-containing anion, such as  $\text{BF}_4$  (par. 18). See the Abstract. With respect to **claim 2**, the fluorine-containing anions  $\text{X}^1$  and  $\text{X}^2$  are each a fluorine-containing anion, such as  $\text{BF}_4$  tetrafluoroborate (par. 18). With respect to **claim 6**, the electrolyte is employed in a nonaqueous electrolytic lithium secondary cell comprising a positive electrode, negative electrode, separator and a nonaqueous electrolytic solution. See paragraph 158. With respect to **claim 7**, the fluorine-containing anions  $\text{X}^1$  and  $\text{X}^2$  are each a fluorine-containing anion, such as  $\text{BF}_4$  tetrafluoroborate (par. 18). With respect to **claim 9**, the negative electrode is graphite (par. 158).

Sato does not expressly disclose: vinylene carbonate in an amount of 1 to 5wt% based on the electrolytic solution (**claim 1**); molten salt contained in an amount of 1 to 15wt % (**claims 3-5 & 8**).

Murai teaches that it is well known to add VC to electrochemical cells in a weight percent of 1 wt% in order to in order to increase charge discharge characteristics of a cell. See Example 1 and paragraphs 83 and 94.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to employ the vinylene carbonate in an amounts of 1 wt% as taught by Murai, in the electrolyte of Sato, in order to improve charge discharge characteristics.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection. The argument with respect to antedating Kikyama by perfecting the English translation of the Japanese priority application No. 2003/374785 is persuasive and the translation has been received and acknowledged.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Monique Wills whose telephone number is (571) 272-1309. The Examiner can normally be reached on Monday-Friday from 8:30am to 5:00 pm.

If attempts to reach Examiner by telephone are unsuccessful, the Examiner's supervisor, Patrick Ryan, may be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Monique M Wills/  
Examiner, Art Unit 1795

/PATRICK RYAN/  
Supervisory Patent Examiner, Art Unit 1795